

Spiral membrane module box for separating the metal salts from free acids from process baths

Flow:	80 - 160 l/h each channel (depending on the flow limiters used, the composition of the media and the operating pressure)
Recommended operating pressure:	1,8 - 2,2 bar (overpressure before the flow limiters)
Minimum pre-pressure:	1,0 bar (overpressure)
Maximum pressure:	4,0 bar (overpressure)
Pressure loss:	Equivalent to operating pressure
Operating temperature:	5 °C - 30 °C
Weight when empty:	Approx. 200 kg (incl. empty modules)
Fill volume:	Approx. 50 l per channel
Maximum payload:	1 spiral membrane module box DS10-30
Mounting:	Only on a level surface (see installation instructions)
Media connections:	1" as coupler fitting (GF), as option with hose

Conditions of operation and use:



Suitable media:

Depend on the used spiral membrane modules (see *technical data sheet* of the used spiral membrane modules).

Prohibited media:

Organic liquids; liquids with particles > 10 microns; additional media depending on the used spiral membrane modules (see *technical data sheet* of the used spiral membrane modules).

Hazards could arise when working with corrosive substances!

Before commissioning, ensure that the safety data sheets of the media used have been observed!

NO organic substances (e.g. oils) and NO particles > 10 microns are permitted to enter the spiral membrane module box. The operator must assure the provision of appropriate pre-filtration before entry the spiral membrane module box.

Performance parameters of the Spiral membrane modul box:

The following flow rates are available in each spirale membrane module and can be combined in any desired order (Up to ten spirale membrane modules are installed in the box):

9 l/hr; 12 l/hr; 15 l/hr

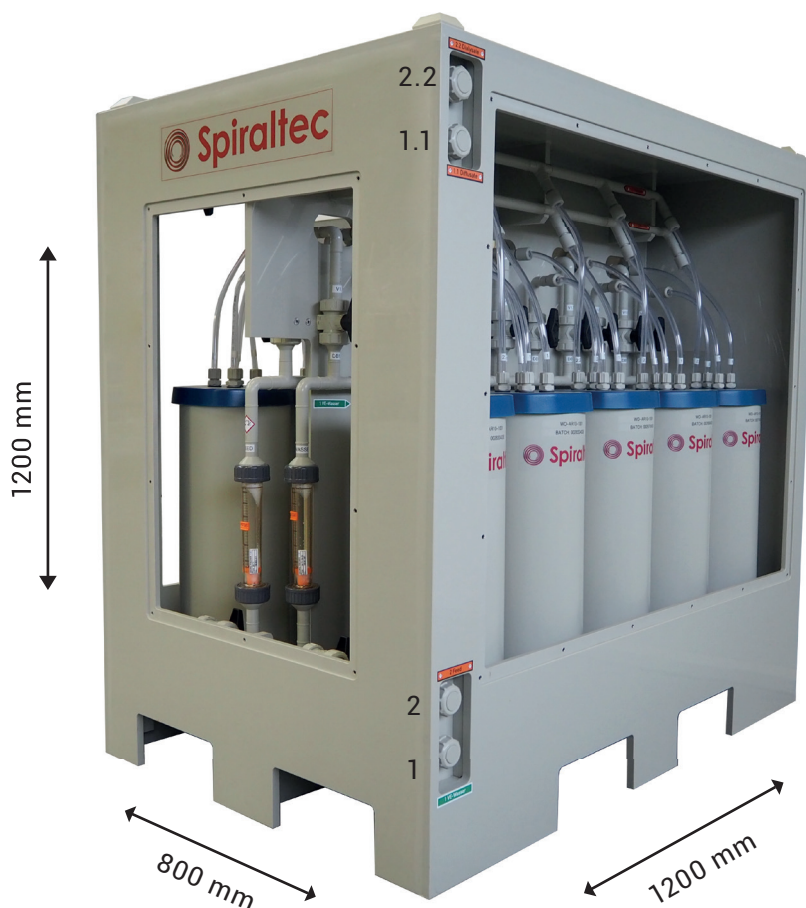
Details relate to DI water (25 °C) and have a tolerance of ± 20 %.

All other performance parameters are dependent on the spirale membrane module used, the volumetric flow rates and the composition of the feed! More detailed information can be found in the *technical data sheet* of the spiral membrane modules that are used.

Dimensions:

Connection:

- 1. DI-Water (in)
- 1.1 Diffusate (out)
- 2. Feed (in)
- 2.2 Dialysate (out)



Filling the Spiral membrane modul box:

- DI water channel (connection 1) and feed channel (connection 2) must be filled at the same time.
- Bleeding the module box: The displaced air must escape barrier-free via the connections 1.1 and 2.2.
- For the conditioning of the membrane film, the spiral membrane modules have to be filled and left standing about 48 hours. The outputs of the spiral membrane module box must be sure remain open, otherwise pressure builds up in the individual spiral membrane modules, which destroys the modules.
- After the first filling, the spiral membrane modules have to kept wet internally for the full working life.

Operation of the spiral membrane modul box:

- It must be ensured that the diffusate (connection 1.1) and dialysate (connection 2.2) can flow off without pressure.
- The volume flows are determined by the flow limiters. The nominal flow is reached from an operating pressure of 1.8 bar. In the pressure range from 1.0 bar to 1.8 bar is a low control of the volume flows possible. This must be realized by on-site services. The specified limits for operating pressure and operating temperature must be observed!

Shutdown/Storage:

Used spiral membrane modules are to be kept constantly moist. To prevent bacterial growth during downtime or storage, the spiral membrane modules should be dilute salt-free acid. We recommend using the membrane spiral winding modules inside the box storage temperature of 5 °C - 30 °C.

After use:

After use, the spiral membrane modules must be sent to a professional disposal facility. The module box may eventually be reused. Therefore, contact your contact person of Spiraltec GmbH.

Further information:

Please refer to the installation instructions for more detailed information.